

CLAIMS

What is claimed is:

- 5 1. A building block comprising:
 a plurality of straw stalks having natural occurring binding agents
 processed to form a generally rectangular block for building,
 wherein the block includes a first rigid wall, a second rigid wall opposite
 of the first rigid wall, and one or more sidewalls connecting the first and
10 second walls the walls having a higher density than an interior portion of the
 block.
2. The building block of claim 1, wherein the straw stalks are rice straw
 stalks and the block is substantially free of any added binding agent.
- 15 3. The building block of claim 1, wherein the straw stalks have a
 predetermined moisture content of approximately 14% or less.
4. The building block of claim 2, wherein the first and second walls are
20 generally planar.
5. The building block of claim 4, wherein the sidewalls are generally
 planar and orthogonal to the first and second walls to form crisp edges.
- 25 6. The building block of claim 1, further comprising a restraining device
 adapted to provide additional support to the first and second walls.
7. The building block of claim 1, further comprising an added binder in
 contact with the straw stalks and
30 8. The building block of claim 7, further comprising a moisture inhibitor in
 contact with the straw stalks.

9. The building block of claim 5, wherein the block comprising dimensions including a length of about 24 inches, a width of about 12 inches and a height of about 12 inches and weighs about 40 to 55 lbs.

5 10. The building block of claim 9, wherein the block further includes one or more through-holes extending between the one or more sidewalls and adapted to receive an elongated member therethrough.

11. A building block comprising:

10 a plurality of rice straw stalks compressed to form a generally rectangular block for building having a moisture content less than or equal to about 14%,

a binder inherently derived from the straw stalks wherein upon application of heat and pressure and cooling thereafter the block maintains its
15 shape and includes a first rigid planar wall, a second rigid planar wall opposite of the first rigid planar wall, and planar sidewalls connecting the first and second walls to form acute edges; and

a restraining device adapted to provide additional support to the first and second walls.

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12. The building block of claim 11, wherein the block comprising weighs about 40 to 55 lbs. and includes dimensions comprising a length of about 24 inches, a width of about 12 inches and a height of about 12 inches.

25 13. The building block of claim 12, wherein the block includes one or more through-holes extending between the one or more sidewalls adapted to receive a rebar, grout tube or both.

14. The building block of claim 13, further comprising a binder and a
30 moisture inhibitor in contact with the stalks.

15. A method of forming a building block comprising the steps of:

a) providing a mass of straw stalks having natural occurring binding agents to form a building block; and

- b) shaping the mass of straw stalks under temperature, pressure or a combination thereof, and optionally in the absence of an added binding agent to form a building block having at least one rigid and planar wall.

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16. The method of claim 15, further including the step of determining the moisture content of the straw stalks and reducing the moisture content of the straw stalks if it is greater than about 14%.

- 10 17. The method of claim 15, further including the step of wrapping a restraining device around one or more of the sidewalls connecting the first and second walls.

- 15 18. The method of claim 17, further including the step of trimming the one or more side walls to form a planar surface and acute edges with the first and second walls.

19. The method of claim 18, further including the step of adding a binder or moisture inhibitor or both to the block.

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20. The method of claim 19, further including the step of creating a through-hole extending between the first and second walls.

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